

REMARKS

The Office action dated December 4, 2006, and the references cited therein have been received and carefully reviewed.

Claims 1-3, 6, 10-11, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicants' Admitted Prior Art shown in Figures 23-24 (AAPA Figures 23-24) in view of EP 909 897 and U.S. 6,336,788 to Fujii.

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA Figures 23-24 in view of EP 909 897 and Fujii, and further in view of U.S. 6,527,507 to Rollwage.

Claims 14-15 and 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA Figures 23-24 in view of EP 909 897 and Fujii, and further in view of U.S. 6,527,507 to Rollwage.

These references have been carefully reviewed but are not believed to show or suggest Applicants' invention as presently claimed. Reconsideration and allowance of the pending claims is therefore respectfully requested in view of the following remarks.

None of the cited references, taken alone or in combination with each other and with AAPA Figures 23-24, teach or suggest the presently claimed invention.

Independent claims 1 and 14 require a convergence device, a pulsation canceling device, and an impact reducing device, while the pump has a first discharge port and a second discharge port, respectively communicating with the first pump channel and the second pump channel, so that the fluid is discharged from the first and second channels via the respective first and second discharge ports and is converged at the convergence device.

Given this particular arrangement of the first and second discharge ports and the convergence device, the pulsation canceling device is configured to displace the first discharge port from the second discharge port by a distance corresponding to half the pitch of the impeller grooves, while the impeller grooves in the first surface and the impeller grooves in the second surface are disposed at the same positions in the circumferential direction.

EP 909 897 teaches to shift the finishing ends 32a and 33a by half the pitch of the blade elements 25. However, this reference does not teach or suggest a convergence device or a pulsation canceling device, as required by the present claims. Thus, in EP 909 897, the finishing ends 32a and 33a are defined by a single discharge port 30, and no cancellation of the pulse occurs at such a single discharge port 30, because the fluid

flowing through the first and second pump chambers will be mixed at the discharge port 30 before colliding with the finishing ends 32a and 33a. EP 909 897 is intended to avoid simultaneous collision of the fluid with the finishing ends of the first and second pump chambers. There is no mention with regard to cancellation of the pulses in the EP 909 897 reference.

The examiner has previously acknowledged that the AAPA Figures 23-24 neither show a pulsation canceling device nor an impact reducing device.

The Fujii reference does not disclose or suggest a pulsation canceling device.

In Rollwage, while FIGS. 1 through 3 show communication holes 36 between two grooves 22 on the opposite side of the impeller, this reference does not show the impact reducing device and the pulsation canceling device.

Accordingly, none of the cited prior art teaches or suggests the pulsation canceling device nor the combination of the pulsating canceling device and the impact reducing device of the invention.

More specifically, the prior art references do not disclose any motivation to combine the impact reducing device and the pulsation canceling device to achieve the synergistic

action for effectively reducing the noises.

In view of the above remarks, it is submitted that the rejections under 35 U.S.C. 103(a) are unsustainable and should be withdrawn.

If any final points remain that can be clarified by telephone, Examiner Verdier is respectfully encouraged to contact Applicants' attorney at the number indicated below.

Respectfully submitted,

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